Controlling microbial co-culture populations based on substrate pulsing can lead to stability through differential fitness advantages.

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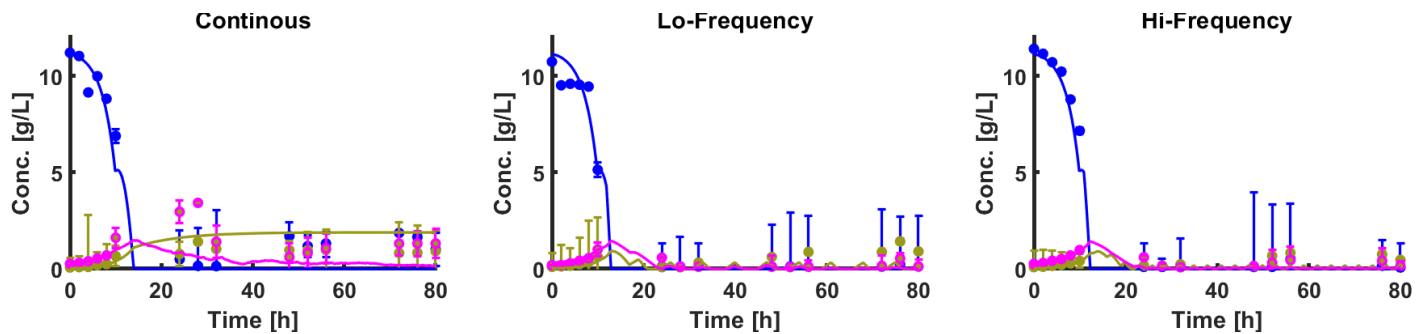# Supplementary File 4: Continuous and Discontinuous culture supplementary figures

Fig 1. Measurement data set coverage for the Continuous, Low-frequency and High-frequency feed co-culture experiments from time 24 to 80.
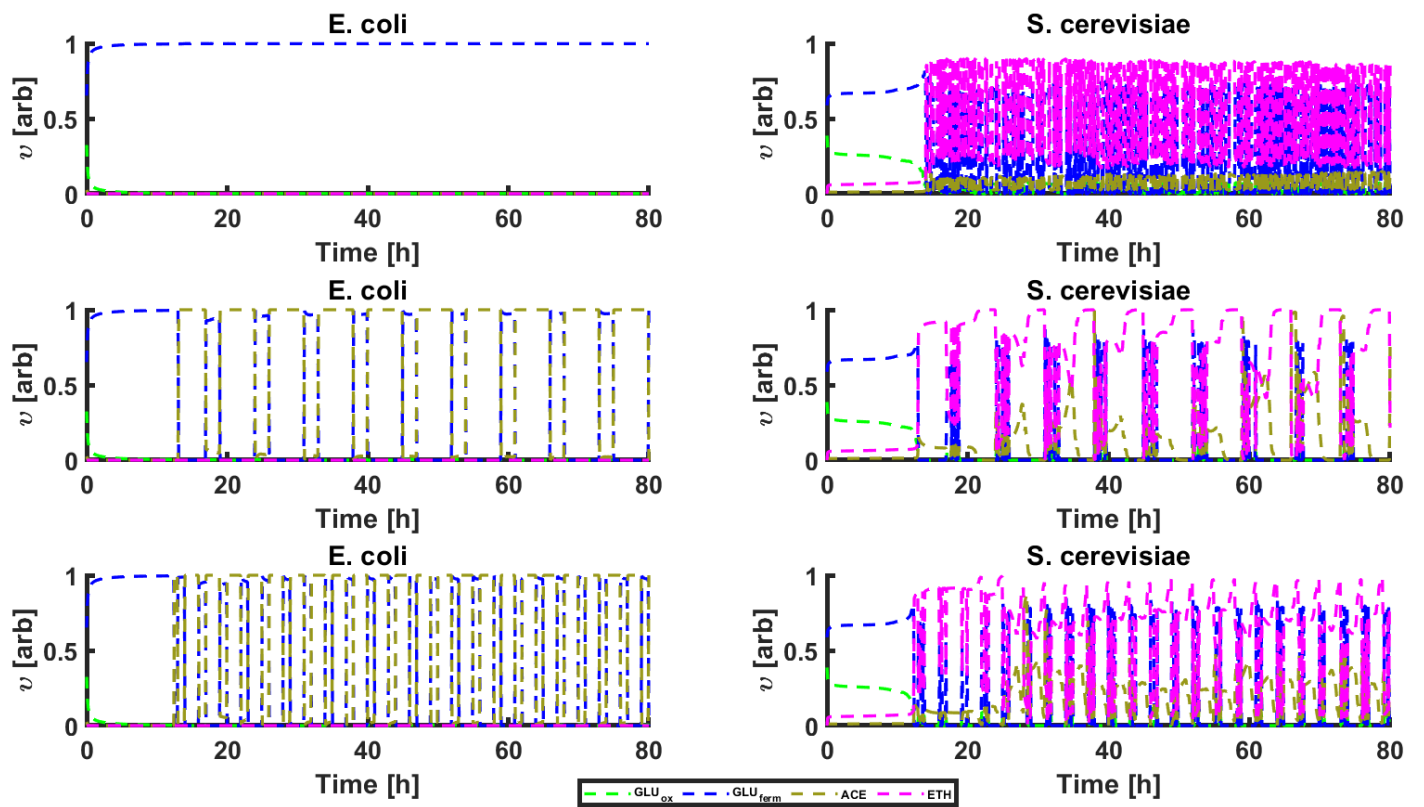
Fig 2. Cybernetic variable υ for *E. coli* and *S. cerevisiae* during the simulations made for Continuous culture (up), low frequency (middle) and high frequency (down) pulsing experiments.
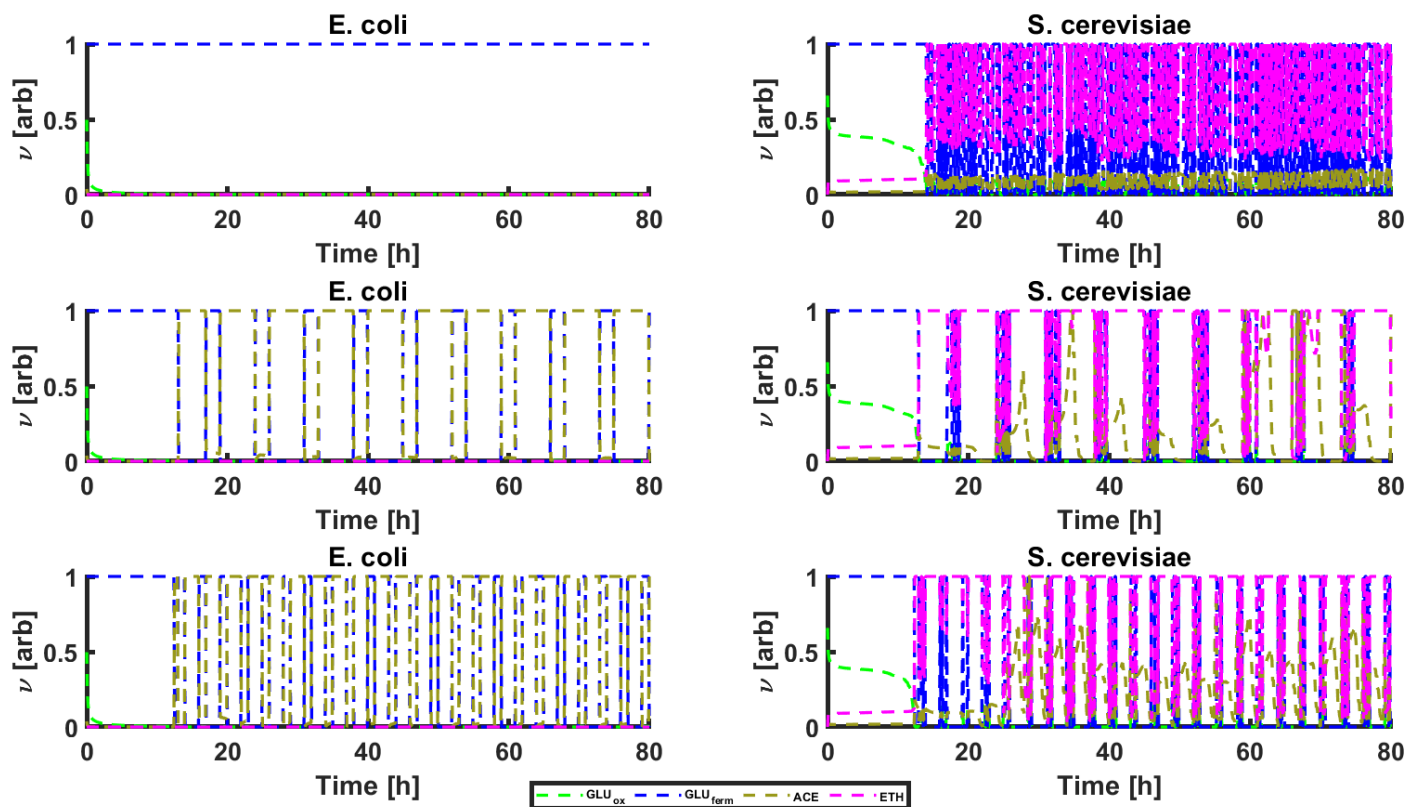
Fig 3. Cybernetic variable ν for *E. coli* and *S. cerevisiae* during the simulations made for Continuous culture (up), low frequency (middle) and high frequency (down) pulsing experiments.
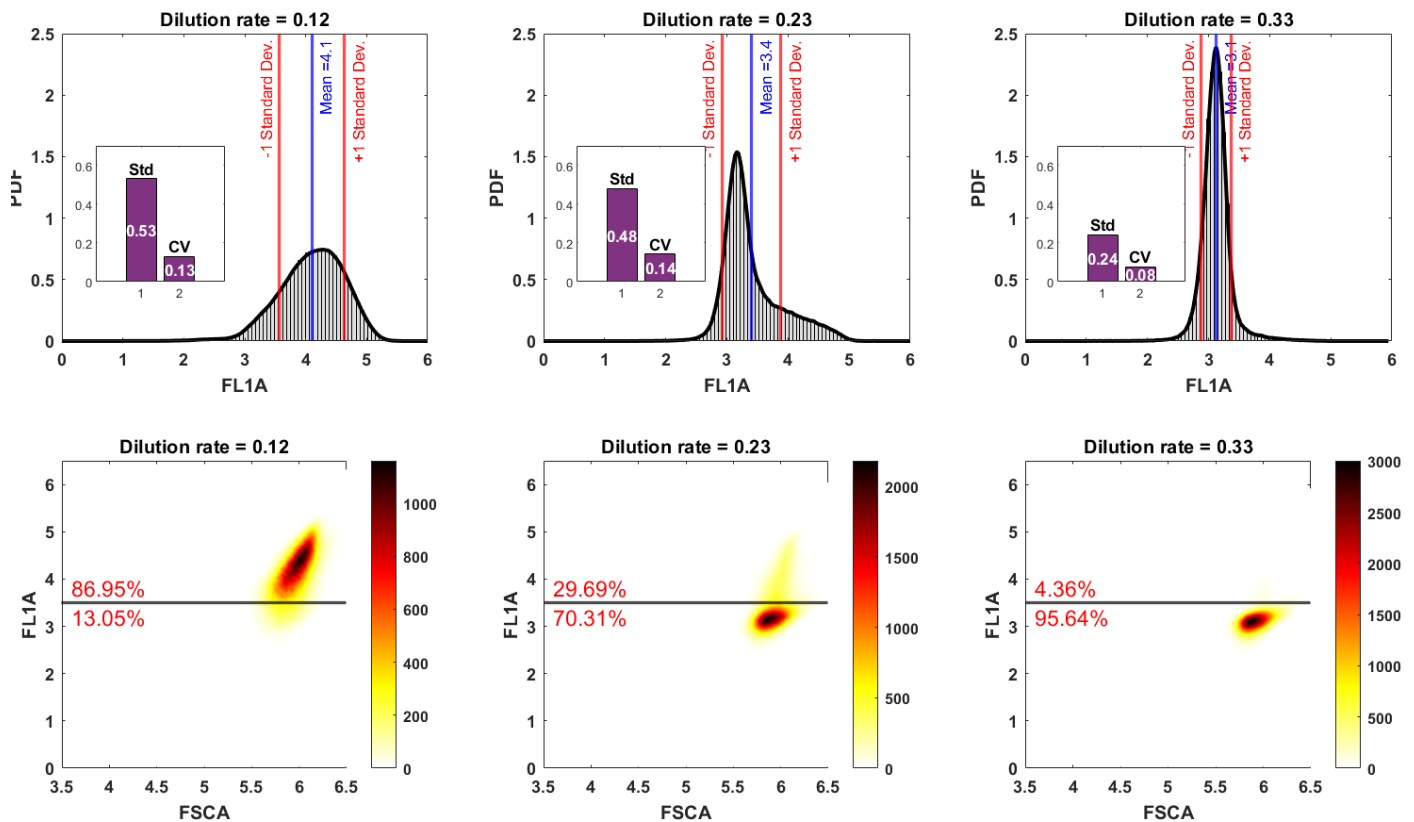
Fig 4. top row: FSCA Probability density function, mean, standard deviations and coefficient of variation for the axenic continuous cultures of *S. cerevisiae* at dilution rates of 0.12, 0.23 and 0.33 h^{-1}, respectively. bottom row: Flow citometry data for the triplicates at the different dilution rates and their GFP^+ and GFP^- percentual calculations along the threshold at 3.5.
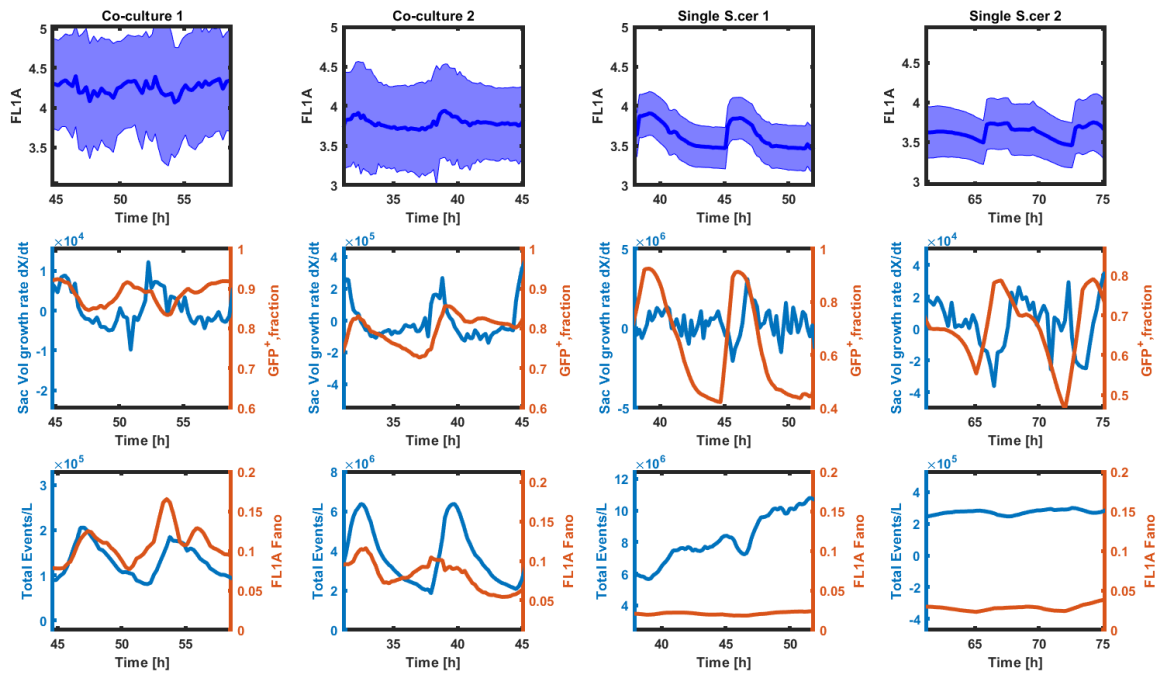
Fig 5. Time evolution of FL1, approximated growth rate, GFP^+ fraction, total events over liter and Fano factor across example cycles for the low-frequency feed regime experiments. Plotted values correspond for *S. cerevisiae* population in coculture and in single culture (duplicates)